UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte CHARLES F. MARINO

_____

Appeal 2008-6323
Application 10/057,817
Technology Center 2600

_____

Decided: January 21, 2009

_____

Before JOHN A. JEFFERY, MARC S. HOFF, and CARLA M. KRIVAK,
Administrative Patent Judges.

JEFFERY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from the Examiner's
rejection of claims 1, 3-8, 10-13, and 15-18. We have jurisdiction under 35
U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellant invented a method and system for blending images. The method includes the step of bit slicing the multiplier of a blending unit so that multiple operations can be performed per cycle. The system similarly includes a blending unit with multipliers that perform multiple operations per cycle. This method and system perform the blending function at a lower cost.[1] Independent claim 1 is reproduced below:

> 1. A method of blending at least two images using a blending unit in a graphics engine, the blending unit including a plurality of multipliers, the method comprising:
>
> receiving a request for blending the at least two images, each image having a pixel format; and
>
> reconfiguring each blending unit multiplier to perform at least two operations per multiplier per cycle, wherein the reconfiguring includes bit slicing each multiplier according to the pixel format.

The Examiner relies upon the following as evidence in support of the rejection:

Christensen	US 5,612,710	Mar. 18, 1997
Allen	US 5,838,387	Nov. 17, 1998
Flahie	US 5,912,832	Jun. 15, 1999
Blomgren	US 5,935,198	Aug. 10, 1999

1. Claims 1, 3-6, 8, 10-13, and 15-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Blomgren (Ans. 3-5).

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[1] *See generally* Spec. 3:15-4:12 and 7:21-8:20.

2. Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Blomgren, Flahie, and Christensen (Ans. 6).

3. Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Blomgren and Allen (Ans. 7).

Rather than repeat the arguments of Appellant or the Examiner, we refer to the Brief and the Answer[2] for their respective details. In this decision, we have considered only those arguments actually made by Appellant. Arguments, which Appellant could have made but did not make in the Brief, have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

<div align="center">ANTICIPATION REJECTION</div>

Regarding representative independent claim 1,[3] the Examiner finds that Blomgren discloses all the recited elements (Ans. 3). Appellant first argues that Blomgren does not disclose the step of reconfiguring the multiplier to include bit slicing according to the pixel format (Br. 3-5). Specifically, Appellant contends Blomgren discloses dividing the multiplier into four eight-bit or sixteen-bit sections regardless of the pixel format and, thus, fails to disclose the recitation in claim 1 of being "according to the pixel format." (B. 4-5) Appellant also argues Blomgren fails to disclose blending two images as recited in claim 1 (Br. 5).

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[2] Throughout this opinion, we refer to (1) the Appeal Brief filed April 25, 2007, and (2) the most recent Examiner's Answer mailed September 13, 2007.

[3] Appellant argues claims 1, 3-6, 8, 10-13, and 15-17 as a group (Br. 3-5). Accordingly, select independent claim 1 as representative. 37 C.F.R. § 41.37(c)(1)(vii).

ISSUES

The following issues have been raised in the present appeal:

(1)   Has the Appellant shown the Examiner erred in finding Blomgren discloses bit slicing each multiplier "according to the pixel format" as recited in claim 1?

(2)   Has the Appellant shown the Examiner erred in finding Blomgren discloses a method for blending two images as recited in claim 1?

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Blomgren discloses the color of a pixel is made from red, green, and blue components, and each color may be represented by an eight-bit or sixteen-bit value (Blomgren, col. 1, ll. 49-52 and col. 13, l. 29).

2. Blomgren states that 3D graphic operations can be performed using interpolation that includes operands B and C representing sub-pixels of eight-bit or sixteen-bit color components of a pixel. This allows for single step instructions (Blomgren, col. 6, ll. 38-61).

3. Blomgren explains that a thirty-two bit multiplier can be divided into smaller sections of four eight-bit sections and that four smaller pixel components can be interpolated simultaneously or in parallel operation. Similarly, a sixty-four bit multiplier is divided into four sixteen-bit sections that can be interpolated simultaneously or in parallel (Blomgren, col. 13, ll. 28-42).

4. Blomgren discloses that the special effects feature uses the interpolation instructions in order to create mist or fog superimposed over another image or object (Blomgren, col. 3, ll. 19-54).

5. Independent claims 8 and 13 do not recite blending images.

PRINCIPLES OF LAW

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of Calif., Inc.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

During examination of a patent application, a claim is given its broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. Of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

ANALYSIS

Blomgren discloses that the color of a pixel is made from red, green, and blue components, and these colors can be represented by an eight-bit or sixteen-bit value (FF 1). Thus, the color format in Blomgren for each pixel or one type of pixel format includes an eight-bit or sixteen-bit value. (*Id.*) Blomgren further explains that large multipliers having thirty-two or sixty-four bits can be divided into smaller four eight-bit or sixteen-bit sections respectively (FF 3). When performing 3D graphic operations, these smaller sections represent sub-pixels or color pixel components and can be processed simultaneously or in parallel during interpolation (FF 2-3). Given the pixel format for red, green, and blue are eight or sixteen-bits, and the

multiplier is divided into either four eight-bit or sixteen-bit sections (FF 1-3), Blomgren discloses that the multiplier is also divided according to the image's color pixel format. Moreover, Blomgren performs 3D graphic operations using interpolation that includes operands representing sub-pixels of a pixel (FF 2). We consider this pixel division into sub-pixels to be a type of bit slicing that each multiplier performs. Thus, Blomgren discloses "reconfiguring each blending unit multiplier . . . wherein the reconfiguring includes bit slicing each multiplier according to the pixel format" as recited in claim 1.

Moreover, we find that Appellant's argument that Blomgren does not disclose "bit slicing a same multiplier according to different pixel formats" (Br. 4) (emphasis omitted) is not commensurate with the scope of claim 1. Claim 1 does not recite a different pixel format, only "the pixel format." Thus, the pixel format of each image in the prior art can be the same, such as Blomgren's eight-bit or sixteen-bit color pixel format (FF 1), and still meet the limitations of claim 1.

Lastly, Appellant contends that Blomgren does not disclose blending two images (Br. 5). As a preliminary matter, we note that claim 1 recites the limitations of "[a] method of blending at least two images using a blending unit" and "receiving a request for blending the at least two images." No active blending step exists in the claim. In any event, as the Examiner notes (Ans. 9-10), Blomgren discloses that the interpolation procedure can be used to superimpose special effects, such as fog, translucency, or ghost effects, over another image or object (FF 4). When superimposing special effects over an image, a blending of colors as discussed in Blomgren (FF 4) must occur. Blomgren, therefore, discloses "[a] method of blending at least two

images using a blending unit" and "receiving a request for blending the at least two images" as recited in claim 1.

Additionally, as independent claims 8 and 13 do not include a limitation of blending two images (FF 5), this argument is not commensurate with the scope of independent claims 8 and 13.

For the above reasons, the rejection of claims 1, 3-6, 8, 10-13, and 15-17 under 35 U.S.C. § 102(b) based on Blomgren is sustained.

REJECTION OVER BLOMGREN, FLAHIE, AND CHRISTENSEN

The Examiner finds the combination of Blomgren, Flahie, and Christensen teaches all the recited limitations of claim 7 (Ans. 6-7). Appellant refers to "[t]he above arguments regarding claim 1" (Br. 5) and states neither Flahie nor Christensen cure the purported deficiencies. We are not persuaded by Appellant's argument for the reasons disclosed above with regard to Blomgren and claim 1 and need not address whether Flahie or Christensen cures any deficiency. This argument also fails to persuasively rebut the Examiner's prima facie case of obviousness – a position we find reasonable.

For the above reasons, Appellant has not shown the Examiner erred in rejecting claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Blomgren, Flahie, and Christensen.

REJECTION OVER BLOMGREN AND ALLEN

The Examiner finds that the combination of Blomgren and Allen teaches all the recited limitations of claim 18 (Ans. 7). Appellant refers to "[t]he above arguments regarding claim 13" (Br. 5) and states Allen does not

cure the purported deficiencies. We are not persuaded by Appellant's argument for the reasons disclosed above with regard to Blomgren and claim 1 and need not address whether Allen cures any deficiency. This argument also fails to persuasively rebut the Examiner's prima facie case of obviousness – a position we find reasonable.

For the above reasons, Appellant has not shown the Examiner erred in rejecting claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Blomgren and Allen.

CONCLUSION

(1)   The Appellant has not shown that the Examiner erred in finding Blomgren discloses bit slicing each multiplier "according to the pixel format" as recited in claim 1.

(2)   The Appellant has not shown that the Examiner erred in finding Blomgren discloses a method for blending two images as recited in claim 1.

DECISION

The decision of the Examiner to reject claims 1, 3-8, 10-13, and 15-18 is affirmed.

No period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

<u>AFFIRMED</u>

ELD

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